

Sequence Listing

<110> CHOE, Mu-Hyeon

<120> THE DIMER OF CHIMERIC RECOMBINANT BINDING DOMAIN-FUNCTIONAL GROUP FUSION FORMED VIA DISULFIDE-BOND-BRIDGE AND THE PROCESSES FOR PRODUCING THE SAME

<130> YL04011PCT

<140> PCT/KR2004/001595

<141> 2004-06-30

<150> KR2003-0043599

<151> 2003-06-30

<160> 12

<170> KopatentIn 1.71

<210> 1

<211> 1749

<212> DNA

<213> Artificial Sequence

<220>

<223> pMC74 plasmid coding sequence

<400> 1

atggatgtga agctggtgga atctggagga ggcttagtgc agcctggagg gtccctgaaa 60

ctctcctgtg caacctctgg attcaacttc agtgactatt acatgtattt ggttcgccag 120

actccagaga agaggctgga gtgggtcgca tacatttagta atgatgatag ttccgcccgt 180

tattcagaca ctgtaaaggg ccggttcacc atctccagag acaatgccag gaacaccctc 240

tacctgcaaa tgagccgtct gaagtctgag gacacagcca tatattcctg tgcaagagga 300

ctggcctggg gagcctgggt tgcttactgg ggccaaggga ctctggcac tgtctctgca 360

Sequence Listing

gccaaaacga cacccccatc tgtctatcca ctggcccttg gatctgctgc ccaaactaac	420
tccatggta ccctggatg cctggtcaag ggctatttc ctgagccagt gacagtgacc	480
tggaactctg gatccctgtc cagcggtgtg cacaccttcc cagctgtcct gcagtctgac	540
ctctacactc tgagcagctc agtgactgtc ccctccagca cctggcccag cgagaccgtc	600
acctgcaacg ttgcccaccc gcccaggcacc accaagggtgg acaagaaaat tgtgccagg	660
gattgtggta gtaaggcttag cataagtaca aaagcttccg gaggtcccga gggcgccagc	720
ctggccgcgc tgaccgcga ccaggcttc cacctgcccgc tggagacttt cacccgtcat	780
cggcagccgc gcggctggga acaactggag cagtgcggct atccggtgca gcggctggtc	840
gcctctacc tggcgccgcg gctgtcgtgg aaccaggctcg accagggtat ccgcaacgcc	900
ctggccagcc cggcagccgc cggcgcacctg ggcgaagcga tccgcgagca gccggagcag	960
gccccgtctgg ccctgaccct ggccgcgcgcc gagagcggcgc gcttcgtccg gcagggcacc	1020
ggcaacgacg aggccggcgc ggccaacggc cggcggaca gcggcgacgc cctgctggag	1080
cgcaactatac ccactggcgc ggagttcctc ggcgacggcgc ggcgacgtcag cttagcacc	1140
cgcggcacgc agaactggac ggtggagcgg ctgctccagg cgcacggcca actggaggag	1200
cgcggctatg tgttcgtcgg ctaccacggc accttcctcg aagcggcgc aagcatcgac	1260
ttcggcgggg tgcgcgcgc cagccaggac ctgcgacgcga tctggcgcgg tttctatatac	1320
gccggcgatc cggcgtggc ctacggctac gcccaggacc aggaacccga cgcacgcggc	1380
cggatccgca acggtgccct gctgcgggtc tatgtgcgcgc gctcgagcct gccgggcttc	1440
taccgcacca gcctgaccct ggccgcgcgc gaggcggcgg gcgaggtcga acggctgatc	1500
ggccatccgc tgccgctgcg cctggacgcc atcaccggcc ccgaggagga aggcgggcgc	1560

Sequence Listing

ctggagacca ttctcggtcg gccgctggcc gagcgcaccc tggtgattcc ctcggcgatc	1620
ccccaccgacc cgcgcaacgt cgccggcgac ctgcaccgtt ccagcatccc cgacaaggaa	1680
caggcgatca gcgcctgcc ggactacgcc agccagcccc gcaaaccgcc ggcgcaggac	1740
ctgaagtaa	1749

<210> 2
<211> 1764
<212> DNA
<213> Artificial Sequence

<220>
<223> pMH21 plasmid coding sequence

<400> 2	
atggagggtga agctgggtgga atctggagga ggcttagtgc agcctggagg gtccctgaaa	60
ctctcctgtg caacctctgg attcactttc agtgactatt acatgtatttgg gttcgccag	120
actccagaga agaggctgga gtgggtcgca tacattagta atgatgatag ttccgcccgt	180
tattcagaca ctgtaaaggcc cggttccacc atctccagag acaatgccag gaacaccctc	240
tacctgcaaa tgagccgtct gaagtctgag gacacagcca tatattcctg tgcaagagga	300
ctggcctggg gagcctgggtt tgcttactgg ggccaaggga ctctggcac tgtctctgca	360
gccaaaacga cacccttccatc tgtctatcca ctggccctcg gatctgctgc ccaaactaac	420
tccatggtga ccctggatg cctggtcaag ggctatttcc ctgagccagt gacagtgacc	480
tggaaactctg gatccctgtc cagcgggtgtg cacaccttcc cagctgtcct gcagtctgac	540
ctctacactc tgagcagctc agtgactgtc ccctccagca cctggccctcg cgagaccgtc	600
acctgcaacg ttgcccaccc ggccagcagc accaagggtgg acaagaaaaat tgtgcccagg	660

Sequence Listing

gattgtggta gtaaggccttg cataagtaca aaagcttctg gtggtggcgg atctggaggt 720
cccgaggggcg gcagcctggc cgcgctgacc gcgcaccagg cttgccacct gccgctggag 780
actttcaccc gtcatcgcca gccgcgcggc tggaaacaac tggagcagtg cggttatccg 840
gtgcagcggc tggtcgcctt ctacctggcg gcgcggctgt cgtggAACCA ggTCGACCAAG 900
gtgatccgca acgcctggc cagccccggc agcggggcg acctgggcga agcgatccgc 960
gagcagccgg agcaggccccg tctggccctg accctggccg ccgcccagag cgagcgcttc 1020
gtccggcagg gcacccggcaa cgacgaggccc gcgcggccca acggcccgcc ggacagcggc 1080
gacgcctgc tggagcgcaa ctatcccact ggcgccggagt tcctcgccga cggcggcgac 1140
gtcagcttca gcacccggcgg cacgcagaac tggacggtgg agcggctgct ccaggcgcac 1200
cgccaaactgg aggagcgcgg ctatgtgttc gtccggctacc acggcacctt cctcgaagcg 1260
gwgcaaaagca tcgtttcgg cggggtgccgc gcgcgcagcc aggacctcga cgcgatctgg 1320
cgccgtttct atatcgccgg cgatccggcg ctggcctacg gctacgccccca ggaccaggaa 1380
ccgcacgcac gcggccggat ccgcaacggt gcccgtgtc gggtctatgt gccgcgcgtcg 1440
agcctggccgg gcttctaccg caccagctg accctggccg cgccggagggc ggcggcgag 1500
gtcgaacggc tgatcgccca tccgctggcg ctgcgcctgg acgccatcac cggccccgag 1560
gaggaaggcg ggcgcctgga gaccatttctc ggctggccgc tggccgagcg caccgtggtg 1620
atccctcgg cgatccccac cgacccgcgc aacgtcgccg gcgcacccatcg cccgtccagc 1680
atccccgaca aggaacaggc gatcagcgcc ctgcggact acgcccagccca gcccggcaaa 1740
ccgcccgcgcg aggacctgaa gtaa 1764

Sequence Listing

<210> 3
<211> 1749
<212> DNA
<213> Artificial Sequence

<220>
<223> pCE2 plasmid coding sequence

<400> 3
atggatgtga agctggtgga atctggagga ggcttagtgc agcctggagg gtcctgaaa 60
ctctcctgtg caacctctgg attcaacttc agtgaactatt acatgtattt ggttcgccag 120
actccagaga agaggctgga gtgggtcgca tacatttagta atgatgatag ttccggcgct 180
tattcagaca ctgtaaaggc ccggttcacc atctccagag acaatgccag gaacaccctc 240
tacctgcaaa tgagccgtct gaagtctgag gacacagcca tatattcctg tgcaagagga 300
ctggcctggg gagcctgggt tgcttactgg ggccaaggga ctctggtcac tgtctctgca 360
gccaaaacga cacccccatc tgtctatcca ctggcccctg gatctgctgc ccaaactaac 420
tccatggtga ccctgggatg cctggtcaag ggctatttcc ctgagccagt gacagtgacc 480
tggaaactctg gatccctgtc cagcggtgtg cacaccttcc cagctgtcct gcagtctgac 540
ctctacactc tgagcagctc agtgaactgtc ccctccagca cctggcccag cgagaccgtc 600
acctgcaacg ttgcccaccc ggccagcagc accaagggtgg acaagaaaaat tgtgcccagg 660
gattgtggta gtaaggcttg cataagtaca aaagcttccg gaggtcccga gggcggcagc 720
ctggccgcgc tgaccgcgca ccaggcttgc cacctgccgc tggagacttt caccgtcat 780
cgccagccgc gcccgtggga acaactggag cagtgcggct atccggtgca gcccgtggc 840
gccccttacc tggccgcgcg gctgtcgtgg aaccaggtcg accaggtgat ccgcaacgcc 900

Sequence Listing

ctggccagcc ccggcagcgg cggcgacctg ggcgaagcga tcccgagca gccggagcag	960
gccccgtctgg ccctgaccct ggccgcccgc gagagcggac gcttcgtccg gcagggcacc	1020
ggcaacgacg aggccggcgc ggccaacggc cccggggaca gcggcgacgc cctgctggag	1080
cgcaactatc ccactggcgc ggagttcctc ggcgacggcg gcgacgtcag cttagcacc	1140
cgcggcacgc agaactggac ggtggagcgg ctgctccagg cgacccgcca actggaggag	1200
cgcggctatg tgttcgtcgg ctaccacggc accttcctcg aagcggcgca aagcatcgtc	1260
ttcggcgggg tgcgcgcgcg cagccaggac ctcgacgcga tctggcgccg tttctataatc	1320
gccggcgatc cggcgctggc ctacggctac gcccaggacc aggaacccga cgacacggc	1380
cggatccgca acggtgccct gctgcgggtc tatgtgccgc gctcggccct gccgggcttc	1440
taccgcacca gcctgaccct ggccgcgcgg gaggcggcg gcgaggtcga acggctgatc	1500
ggccatccgc tgccgctgcg cctggacgcc atcaccggcc ccgaggagga aggccggcgc	1560
ctggagacca ttctcggtcg gccgctggcc gagcgcaccc tggtgattcc ctggcgatc	1620
cccacccgacc cgcgcacgt cggcgccgac ctcgacccgt ccagcatecc cgacaaggaa	1680
caggcgatca gcccctgcc ggactacgcc agccagcccg gcaaaccgcc ggcgcaggac	1740
ctgaagtaa	1749

<210> 4
<211> 672
<212> DNA
<213> Artificial Sequence

<220>
<223> pMC75 plasmid coding sequence

Sequence Listing

```

<400>    4
atggatgtgc ttagtacccca gtctccattg agtttacctg tcagtcgg agatcaagcc      60
tccatctctt gcagatctag tcagatcatt gtacatagta atggaaacac ctattnagaa      120
tggtacctgc agaaaccagg ccagtctcca aagctcctga tctacaaagt ttccaaccga      180
ttttctgggg tcccagacag gttcagtggc agtggatcag ggacagattt cacactcaag      240
atcagcagag tggaggctga ggatctggga gtttattact gcttcaagg ttcacatgtt      300
ccattcacgt tcggctcggg gacaaagttg gaaataaaac gggctgtgc tgccaccaact      360
gtatccatct tcccaccatc cagtgagcag ttaacatctg gaggtgcctc agtcgtgtgc      420
ttcttgaaca acttctaccc caaagacatc aatgtcaagt ggaagattga tggcagtgaa      480
cgacaaaatg gcgtcctgaa cagttggact gatcaggaca gcaaagacag cacctacagc      540
atagcagca ccctcacgtt gaccaaggac gagtatgaac gacataacag ctatacctgt      600
gaggccactc acaagacatc aacttcaccc attgtcaaga gcttcaacag gaatgagtgt      660
ggtaaagctt aa                                         672

```

```

<210>    5
<211> 2454
<212> DNA
<213> Artificial Sequence

```

```

<220>
<223> pLSC52 plasmid coding sequence

```

```

<400>    5
atggatgtga agctggtgga atctggagga ggcttagtgc agcctggagg gtccctgaaa      60
ctctcctgtg caacctctgg attcaacttc agtgcattt acatgtattt gttcgccag      120

```

Sequence Listing

actccagaga agaggctgga gtgggtcgca tacattagta atgatgatag ttccgcccgc 180
tattcagaca ctgtaaaggg ccggttcacc atctccagag acaatgccag gaacaccctc 240
tacctgcaaa tgagccgtct gaagtcttag gacacagcca tatattcctg tgcaagagga 300
ctggcctggg gagcctgggt tgcttactgg ggccaaggga ctctggtcac tgtctctgca 360
gccaaaaacga cacccccatac tgtctatcca ctggccctg gatctgctgc ccaaactaac 420
tccatggtga ccctggatg cctggtcaag ggctatttcc ctgagccagt gacagtgacc 480
tggaactctg gatccctgtc cagcggtgtg cacaccttcc cagctgtcct gcagtctgac 540
ctctacactc tgagcagctc agtgactgtc ccctccagca cctggcccaag cgagaccgtc 600
acctgcaacg ttgcccaccc ggccagcagc accaaggtgg acaagaaaat tgtgcccagg 660
gattgtggtg agccaaatc ttgtgacaaa actcacacat gccaccgtg cccagcacct 720
gaactcctgg ggggaccgtc agtcttcctc ttccccccaa aacccaagga caccctcatg 780
atctcccgga cccctgaggt cacatgcgtg gtggtgacg tgagccacga agaccctgag 840
gtcaagttca actggtaacgt ggacggcgtg gaggtgcata atgccaagac aaagccgcgg 900
gaggagcagt acaacagcac gtaccgtgtg gtcagcgtcc tcaccgtcct gcaccaggac 960
tggctgaatg gcaaggagta caagtgcac agtccaaaca aagccctccc agcccccata 1020
gagaaaaacca tctccaaagc caaagggcag ccccgagaac cacaggtgta caccctgccc 1080
ccatcccggt atgagctgac caagaaccag gtcagcctga cctgcctggt caaaggcttc 1140
tatcccgacg acatgcgtt ggagtggag agcaatggc agccggagaa caactacaag 1200
accacgcctc ccgtgctgga ctccgacggc tccttattcc tctacagcaa gtcaccgtg 1260
gacaagagca ggtggcagca ggggaacgtc ttctcatgct ccgtgatgca tgaggctctg 1320

Sequence Listing

cacaaccact acacgcagaa gagcctctcc ctgtctccgg gtaaaggcgg aggcgatcc	1380
ggtgtggcg gttctaaagc ttccggaggt cccgagggcg gcagcctggc cgcgctgacc	1440
gcgcaccagg cttgccacct gccgctggag actttcaccc gtcatcgcca gccgcgcggc	1500
tgggaacaac tggagcagtg cgctatccg gtgcagcggc tggtcgcct ctacctggcg	1560
gcgcggctgt cgtgaaacca ggtcgaccag gtgatccgca acgcctggc cagccccggc	1620
agcggcggcg acctggcgca agcgatccgc gagcagccgg agcaggcccg tctggccctg	1680
accctggccg ccgcccagag cgagcgcttc gtccggcagg gcacccgcaa cgacgaggcc	1740
ggcgccggcca acggcccgcc ggacagcggc gacgcctgc tggagcgcaa ctatcccact	1800
ggcgccggagt tcctcgccga cggccggcgcac gtcagttca gcacccggc cacgcagaac	1860
tggacggtgg agcggctgct ccagggcgcac cgccaaactgg aggagcgcgg ctatgtttc	1920
gtcggttacc acggcacctt cctcgaagcg gcgaaagca tcgtttcgg cgggtgcgc	1980
gcfgcagcc aggacctcga cgcgatctgg cgcggttct atatcgccgg cgatccggcg	2040
ctggcctacg gctacccca ggaccaggaa cccgacgcac gccccggat cgcacgggt	2100
gcccgtctgc gggtctatgt gccgcgtcg agcctgcgg gcttctaccg caccagcctg	2160
accctggccg cgccggaggc ggcgggcgag gtcgaacggc tgatggcca tccgctgcgg	2220
ctgcgcctgg acgccatcac cggcccccggag gaggaaggcg ggcgcctggaa gaccattctc	2280
ggctggccgc tggccgagcg caccgtggtg attccctcgg cgatccccac cgacccgcgc	2340
aacgtcgccgc gcgacactcga cccgtccagc atccccgaca aggaacaggc gatcagcgcc	2400
ctgcccggact acgcccagccaa gcccggcaaa cgcgcgcgcg aggacctgaa gtaa	2454

Sequence Listing

<211> 1233

<212> DNA

<213> Artificial Sequence

<220>

<223> pKL4 plasmid coding sequence

<400> 6

atgcatcacc atcaccatca cgatgtgaag ctgggtgaat ctggaggagg cttagtgcag	60
cctggagggt ccctgaaact ctccctgtgca acctctggat tcactttcag tgactattac	120
atgtatttggg ttccgcagac tccagagaag aggctggagt gggtcgcata cattagtaat	180
gatgatagtt ccgcgcctta ttccagacact gtaaagggcc ggttcaccat ctccagagac	240
aatgccagga acaccctcta cctgcaaatg agccgtctga agtctgagga cacagccata	300
tattcctgtg caagaggact ggcctgggg gcctggtttg cttactgggg ccaagggact	360
ctggtcactg tctctgcagc caaaacgaca cccccatctg tctatccact ggcccctgga	420
tctgctgccc aaactaactc catggtgacc ctgggatgcc tggtaaggg ctatttccct	480
gagccagtga cagtgacctg gaactctgga tccctgtcca gcggtgtgca cacttccca	540
gctgtcctgc agtctgacct ctacactctg agcagctcag tgactgtccc ctccagcacc	600
tggcccagcg agaccgtcac ctgcaacgtt gcccacccgg ccagcagcac caaggtggac	660
aagaaaattg tgcccaggga ttgtggtgct aagccttgca tagtacaca agcttccggt	720
ggtggcggat ctggaggtgg cggaaagcggaa ggtcccgagg tgacaggggg aatggcaagc	780
aagtgggatc agaagggtat ggacattgcc tatgaggagg cggccttagg ttacaaagag	840
ggtgtgttc ctattggcgg atgtcttato aataacaaag acggaagtgt tctcggtcg	900
ggtcacaaca tgagatttca aaaggatcc gccacactac atggtgagat ctccactttg	960

Sequence Listing

gaaaactgtg ggagattaga gggcaaagtg tacaaagata ccactttgta tacgacgctg	1020
tctccatgcg acatgtgtac aggtgccatc atcatgtatg gtattccacg ctgtgttgc	1080
ggtgagaacg ttaatttcaa aagtaagggc gagaaatatt tacaaactag aggtcacgag	1140
gttgttggttg ttgacgatga gaggtgtaaa aagatcatga aacaatttat cgatgaaaga	1200
cctcaggatt ggtttgaaga tattggtag tag	1233

```
<210>    7
<211> 4871
<212> DNA
<213> Artificial Sequence
.
.
.
<220>
.
.
.
<223> pMC74 plasmid full sequence
```

<400> 7
taatacgaact cactataggg agaccacaac ggtttccctc tagaaataat tttgttttaac 60

ttttagaagg agatatacat atggatgtga agctggtgga atctggagga ggcttagtgc 120

agcctggagg gtccctgaaa ctctcctgtg caacacctgg attcaacttgc agtgactatt 180
. .
acatgtatttgc ggttcgccag actccagaga agaggctggat gtgggtcgca tacatttagta 240

atgatgatag ttccggcgct tattcagaca ctgtaaaggcc cggttcacc atctccagag 300

acaatgccag gaacaccctc tacctgcaaa tgagccgtct gaagtctgag gacacagcca 360

tatattcctgtg tgcaagagga ctggcctgggg gagcctggtt tgcttactgg ggccaaggga 420

ctctggtcac tgtctctgca gccaaaacgac cacccccatc tgtctatcca ctggccccctg 480

gatctgctgc ccaaactaac tccatggtga ccctgggatg cctggtcaag ggctatttcc 540

Sequence Listing

ctgagccagt gacagtgacc tggaaactctg gatccctgtc cagccgtgtg cacacccttcc	600
cagctgtcct gcagtcgtac ctctacactc tgaggcagtc agtgcgtgtc ccctccagca	660
cctggccccag cgagaccgtc acctgcaacg ttgcccaccc ggccagcagc accaagggtgg	720
acaagaaaat tgtgccagg gattgtggta gtaaggcttag cataagtaca aaagcttccg	780
gagggtcccga gggcgccagc ctggccgcgc tgaccgcgc ccaggcttc cacctgccgc	840
tggagacttt caccgtcat cggcagccgc gcccgtggaa acaactggag cagtgcggct	900
atccggtgca gcccgtggtc gccctctacc tggccggcgcg gctgtcgtgg aaccagggtcg	960
accagggtat ccgcaacgcc ctggccagcc cggcagcgg cggcgcacctg ggcgaagcga	1020
tccgcgagca gccggagcag gcccgtctgg ccctgaccct ggccgcccgc gagagcgagc	1080
gcttcgtccg gcagggcacc ggcaacgacg aggccggcgc ggccaaacggc cccggggaca	1140
gccccgcacgc cctgctggag cgcaactatc ccactggcgc ggagttccctc ggcgacggcg	1200
gcgacgtcag cttcagcacc cggcgcacgc agaactggac ggtggagcgg ctgctccagg	1260
cgcacccgcca actggaggag cggcgtatg tggcgtcgg ctaccacggc accttcctcg	1320
aaggccgcga aagcatcgta ttccgggggg tgccgcgcgc cagccaggac ctcgacgcga	1380
tctggcgcgg tttctataatc gcccggatc cggcgttgc ctacggctac gcccaggacc	1440
aggaaccgcga cgcacgcggc cggatccgca acgggtccct gctgggggtc tatgtgcgc	1500
gctcgagcct gcccggcttc taccgcacca gcctgaccct ggccgcgcgc gaggccggcg	1560
gcgagggtcga acggctgatc gcccattccgc tgccgtgcg cctggacgcc atcaccggcc	1620
ccgaggagga aggcggggcgc ctggagacca ttctcggtcg gccgtggcc gagcgcaccc	1680
tggtgattcc ctggcgatc cccaccgacc cgcgcaacgt cggccggcgc ac ctcgacccgt	1740

Sequence Listing

ccagcatccc cgacaaggaa caggcgatca ggcgcctgcc ggactacgcc agccagcccc	1800
gcaaaccgcc gcgcgaggac ctgaagtaac tgccgcacc ggccggctcc cttcgcagga	1860
gcccggccttc tcggggcctg gccatacatac aggttttctt gatgccagcc caatcgaata	1920
tgaattcggc tgctaacaaa gcccgaaagg aagctgagtt ggctgctgcc accgctgagc	1980
aataacttagc ataacccctt gggcctctaa acgggtcttg aggggaaaa ttgctgaaagg	2040
aggaactata tccggatcgg agatcaattc tggcgtaata gcgaagaggc ccgcaccgat	2100
cgcgccttccc aacagttgcg tagcctgaat ggcgaatggg acgcgcctg tagcggcgca	2160
ttaagcgcgg cgggtgttgt ggttacgcgc agcgtgaccg ctacacttgc cagcgcctca	2220
gcgcgcgcgc ctttcgttt ctcccttcc tttctcgcca cgttcgcggg ctttccccgt	2280
caagctctaa atcggggct cccttaggg ttccgattta gtgcatttacg gcacctcgac	2340
ccccaaaaaac ttgatttaggg tgatggttca cgtagtggc catgcgcctg atagacggtt	2400
tttcgcctt tgacgttgtt gtcacgttc tttaatagtg gactcttgtt ccaaactgga	2460
acaacactca accctatctc ggtctattct ttgatttt aagggatttt gccgatttgc	2520
gcctatttgtt taaaaaatga gctgatttaa caaaaattta acgcaattt taacaaaata	2580
ttaacgttta caatttcagg tggcactttt cggggaaatg tgcgccggac ccctatttgt	2640
ttatTTTCTT aaatacattc aaatatgtat ccgctcatga gacaataacc ctgataaaatg	2700
cttcaataat attaaaaaag gaagagtatg agtattcaac atttccgtgt cgcccttatt	2760
cccttttttg cggcattttg ctttcgtttt tttgctcacc cagaaacgct ggtgaaagta	2820
aaagatgctg aagatcagtt ggggcacga gtgggttaca tcgaactgga tctcaacagc	2880
ggtaagatcc ttgagagttt tcgccccaa gaacgtttc caatgatgag cactttaaa	2940

Sequence Listing

gttctgctat gtggcgccgtt attatcccgtt attgacgccc ggcaagagca actcggtcgc	3000
cgcatacact attctcagaa tgacttggtt gagtactcac cagtcacaga aaagcatctt	3060
acggatggca tgacagtaag agaattatgc agtgctgccaa taagcatgag tgataaacact	3120
gcggccaaact tacttctgac aacgatcgaa ggaccgaagg agctaaccgc tttttttcac	3180
aacatggggg atcatgtAAC tcgccttgat cgTTGGGAAC cggagctgaa tgaAGCCATA	3240
ccaaacgacg agcgtgacac cacgatgcct gtagcaatgg caacaacgtt gcgcaaacta	3300
ttaactggcg aactacttac tctagcttcc cggcaacaat taatagactg gatggaggcg	3360
gataaaagtgc caggaccact tctgcgctcg gcccttcgg ctggctggtt tattgctgat	3420
aaatctggag ccggtagcg tgggtctcgc ggtatcattt cagcaactggg gccagatgg	3480
aagccctccc gtatcgtagt tatctacacg acgggcagtc aggcaactat ggatgaacga	3540
aatagacaga tcgctgagat aggtgcctca ctgattaagc attggtaact gtcagaccaa	3600
gtttactcat atatacttta gattgattta aaacttcatt tttaattttaa aaggatctag	3660
gtgaagatcc ttttgataa tctcatgacc aaaatccctt aacgtgagtt ttcgttccac	3720
tgagcgtcag accccgtaga aaagatcaa ggatcttctt gagatcctt tttctgcgc	3780
gtaatctgct gcttgcAAC aaaaaaACCA ccgctaccag cggTggTTTg tttGCCGGAT	3840
caagagctac caactttt tccgaaggta actggcttca gcagagcgca gataccaaat	3900
actgtccttc tagttagcc gtagtttaggc caccacttca agaactctgt agcaccgcct	3960
acatacctcg ctctgtaat cctgttacca gtggctgctg ccagtggcga taagtcgtgt	4020
cttaccgggt tggactcaag acgatagttt ccggataagg cgcagcggtc gggctgaacg	4080
gggggttcgt gcacacagcc cagttggag cgaacgacct acaccgaact gagataccta	4140

Sequence Listing

cagcgtgagc attgagaaaag cgccacgctt cccgaaggga gaaaggcgga caggtatccg	4200
gtaagcggca gggtcggaac aggagagcgc acgagggagc ttccaggggg gaacgcctgg	4260
tatctttata gtcctgtcgg gtttcgccac ctctgacttg agcgtcgatt tttgtgtatgc	4320
tcgtcagggg ggccgagcct atggaaaaac gccagcaacg cggcctttt acggttcctg	4380
gcctttgct ggcctttgc tcacatgttc tttcctgcgt tatcccctga ttctgtggat	4440
aaccgtatta ccgcctttga gtgagctgat accgctcgcc gcagccgaac gaccgagcgc	4500
agcgagtcag tgagcgagga agcggaaagag cgccctgatgc ggtatttct ctttacgcatt	4560
ctgtgcggta tttcacacccg catatatggt gcactctcag tacaatctgc tctgatgccc	4620
catagttaag ccagtataca ctccgctatc gctacgtgac tgcaaggaga tggcgcccaa	4680
cagtcccccg gccacggggc ctgccaccat acccacgccc aaacaagcgc tcatgagccc	4740
gaagtggcga gcccgtatctt ccccatcggt gatgtcggcg atataggcgc cagcaaccgc	4800
acctgtggcg ccggtgatgc cgccacgat gcgtccggcg tagaggatct tgagatctcg	4860
atccgcgaaa t	4871

<210> 8
<211> 4886
<212> DNA
<213> Artificial Sequence

<220>
<223> pMH21 plasmid full sequence

<400> 8	
taatacgact cactataggg agaccacaac ggttccctc tagaaataat tttgttaac	60
ttaagaagg agatatacat atggaggtga agctgggtgga atctggagga ggcttagtgc	120

Sequence Listing

agcctggagg gtccctgaaa ctctcctgtg caacctctgg attcaacttc agtga	180							
catgtattg gtttcgcag actccagaga agaggctgga gtgggtcgca tacattagta	240							
atgatgata	g	at	ttccggcgt	tattcagaca	ctgtaaaggg	ccgggttcacc	atctccagag	300
acaatgccag	gaacaccctc	tacctgcaaa	tgagccgtct	gaagtctgag	gacacagcca	360		
tatattcctg	tgcaagagga	ctggcctggg	gagcctggtt	tgcttactgg	ggccaaggga	420		
ctctggtcac	tgtctctgca	gcca	aaaacga	cacccccc	atc	tgtctatcca	ctggccccctg	480
gatctgctgc	ccaaactaac	tccatggtga	ccctgggatg	cctggtcaag	ggctatttcc	540		
ctgagccagt	gacagtgacc	tggaactctg	gatccctgtc	cagcggtgtg	cacaccc	600		
cagctgtcct	gcagtctgac	ctctacactc	tgagcagctc	agtga	ctgtc	ccctccagca	660	
cctggcccag	cgagaccgtc	acctgcaacg	ttgcccaccc	ggccagcagc	accaagg	gtgg	720	
acaagaaaat	tgtgcccagg	gattgtggta	gtaagccttg	cataagtaca	aaagcttctg	780		
gtggtggcgg	atctggaggt	cccgaggcgc	gcagcctggc	cgcgcgtacc	gcgcaccagg	840		
cttgcac	cttgcac	cttgcac	cttgcac	cttgcac	cttgcac	cttgcac	900	
tggagcagt	cgctatccg	gtgcagcggc	tggcgcct	ctac	ctggcgc	gcgcggctgt	960	
cgtggAACCA	ggtcgaccag	gtgatccgca	acgccc	tggc	cagccccggc	agcggcggcgc	1020	
acctggcga	agcgatccgc	gagcagccgg	agcaggcccg	tctggccctg	accctggccg	1080		
ccggccgagag	cgagcgttc	gtccggcagg	gcacccggca	cgacgaggcc	ggcgcggcca	1140		
acggccccggc	ggacagcggc	gacgccc	tggagcgc	caa	ctatccc	act gg	1200	
tcctcggcga	cggcggcgcac	gtcagcttca	gcaccc	cgcc	cacgcagaac	tggacgg	1260	
agcggctgct	ccaggcgcac	cgcca	actgg	aggagcgcgg	ctatgtgtt	cg	1320	

Sequence Listing

acggcacctt cctcgaagcg gcgc当地aaagca tcgtcttcgg cgggggtgcgc gc当地gcagcc	1380
aggacacctgca cgcgatctgg cgggtttct atatcgccgg cgatccggcg ctggcctacg	1440
gctacgcccc ggaccaggaa cccgacgcac gc当地ccggat cc当地aacggt gccc当地gtgc	1500
gggtctatgt gccgc当地ctcg agcctgccgg gcttctaccg caccagcctg accctggccg	1560
cgccggaggc ggc当地ggcgag gtc当地aacggc tgatc当地ggca tccgctgccg ctgc当地cctgg	1620
acgccatcac cggccccgag gaggaaggcg ggcc当地cttggaa gaccattctc ggctggccgc	1680
tggccgagcg caccgtggtg attccctcg cgatccccac cgacccgc当地 aacgtc当地ggcg	1740
gc当地acacctgca cccgtccagc atccccgaca aggaacagggc gatc当地gc当地 ctgccggact	1800
acgccagcca gccc当地gcaaa cc当地ccgc当地g aggacctgaa gtaactgccg cgacccggccg	1860
gctcccttcg caggagccgg ccttctcgcc gc当地tggccat acatcagggtt tt当地ctgatgc	1920
cagccccatc gaatatgaat tc当地gctgcta acaaagcccc aaaggaagct gagttggctg	1980
ctgccaccgc tgagcaataa ct当地gataac cc当地tggcc tctaaacggg tcttgggggg	2040
ttttttgctg aaaggaggaa ct当地atccgg atc当地ggagatc aattctggcg taatagcgaa	2100
gaggccccgca cc当地atcgccc tt当地ccaacag tt当地cgttagcc tgaatggcg atgggacgc当地	2160
ccctgttagcg gc当地cattaag cgccggccgggt gtgggtttta cg当地cagcgt gaccgctaca	2220
cttgc当地ccagcg ccctagcgcc cgctcccttc gcttcttcc ct当地ccttct cgccacgttc	2280
gccggcttcc cccgtcaagc tctaaatcg gggtccctt tagggtccg atttagtgct	2340
ttacggcacc tc当地acccaa aaaacttgat tagggtgatg gttcacgtag tggccatcg	2400
ccctgtataga cggttttcg ccctttgacg tt当地gagtcca cgttcttta tagtggactc	2460
ttgttccaaa ct当地gaacaac actcaaccct atctcggctt attctttga tttataaggg	2520

Sequence Listing

attttgcga tttcgcccta ttggtaaaa aatgagctga' tttaacaaaa atttaacgcg	2580
aattttaca aaatattaac gtttacaatt tcaggcgc ctttcgggg aaatgtgcgc	2640
ggaaccccta tttgttatt tttctaaata cattcaaata tgtatccgct catgagacaa	2700
taaccctgat aaatgcttca ataatatattga aaaaggaaga gtatgagtat tcaacatttc	2760
cgtgtcgccc ttattccctt ttttgcggca ttttgcctc ctgttttgc tcacccagaa	2820
acgctggtga aagtaaaaaga tgctgaagat cagttgggtg cacgagtggg ttacatcgaa	2880
ctggatctca acagcggtaa gatccttgag agtttcgcc ccgaagaacg tttccaatg	2940
atgagcactt ttaaagttct gctatgtggc gcggtattat cccgtattga cgccgggcaa	3000
gagcaactcg gtcgcgcac acactattct cagaatgact tggtagtgc ctcaccagtc	3060
acagaaaagc atcttacgga tggcatgaca gtaagagaat tatgcagtgc tgccataagc	3120
atgagtgata acactgcggc caacttactt ctgacaacga tcggaggacc gaaggagcta	3180
accgctttt ttcacaacat ggggatcat gtaactcgcc ttgatcggt ggaacccggag	3240
ctgaatgaag ccataccaaa cgacgagcgt gacaccacga tgcctgtgc aatggcaaca	3300
acgttgcgc aactattaac tggcgaacta cttactctag cttccggca acaattaata	3360
gactggatgg aggcggataa agttgcagga ccacttctgc gctcggccct tccggctggc	3420
tggtttattt ctgataaatac tggagccggt gagcgtgggt ctcgcggtat cattgcagca	3480
ctggggccag atggtaagcc ctcccgatc gtagttatct acacgacggg cagtcaggca	3540
actatggatg aacgaaatag acagatcgct gagataggtg cctcactgat taagcattgg	3600
taactgtcag accaagttt a ctcataata ctttagattt atttaaaact tcattttaa	3660
tttaaaagga tctaggtgaa gatccttt gataatctca tgacccaaat cccttaacgt	3720

Sequence Listing

gagtttcgt tccactgagc gtcagacccc gtagaaaaga tcaaaggatc ttcttgagat	3780
ccttttttc tgcgctaat ctgctgcttg caaacaaaaa aaccaccgct accagcggt	3840
gttggttgc cggatcaaga gctaccaact cttttccga aggttaactgg cttcagcaga	3900
gcgcagatac caaatactgt cttcttagtg tagccgtagt taggccacca cttcaagaac	3960
tctgttagcac cgcctacata cctcgctctg ctaatcctgt taccagtggc tgctgccagt	4020
ggcgataagt cgtgtttac cgggttggac tcaagacat agttaccgga taaggcgcag	4080
cggtcgggct gaacgggggg ttcgtgcaca cagccagct tggagcgaac gacctacacc	4140
gaactgagat acctacagcg tgagcattga gaaagcgcca cgcttccga agggagaaag	4200
gcggacaggt atccggtaag cggcagggtc ggaacaggag agcgcacgag ggagcttcca	4260
ggggggaaacg cctggtatct ttatagtcct gtcgggttcc gccacctctg acttgagcgt	4320
cgatttttgt gatgctcgtc agggggccg agcctatgga aaaacgcccag caacgcggcc	4380
tttttacggt tcctggcctt ttgctggcct tttgctcaca tttttttcc tgcgttatcc	4440
cctgattctg tggataaccg tattaccgccc tttgagtgag ctgataccgc tcgccccagc	4500
cgaacgaccg agcgcagcga gtcagtgagc gaggaagcgg aagagcgcct gatgcggtat	4560
tttctcctta cgcattgtcg cggattttca caccgcataat atggtgact ctcagtacaa	4620
tctgctctga tgccgcatacg ttaagccagt atacactccg ctatcgctac gtgactgcaa	4680
ggagatggcg cccaacagtc ccccgccac ggggcctgcc accataccca cgccgaaaca	4740
agcgctcatg agcccgaaat ggcgagcccg atttccca tcggtgatgt cggcgatata	4800
ggcgccagca accgcacctg tggcgccggat gatgccggcc acgatgcgtc cggcgatag	4860
gatcttgaga tctcgatccg cgaaat	4886

Sequence Listing

<210> 9
<211> 4871
<212> DNA
<213> Artificial Sequence

<220>
<223> pCE2 plasmid full sequence

<400> 9
taatacgact cactataggg agaccacaac ggtttccctc tagaaaataat tttgtttaac 60
tttaagaagg agatatacat atggatgtga agctggtgga atctggagga ggcttagtgtc 120
agcctggagg gtccctgaaa ctctcctgtg caacctctgg attcaacttc agtactatt 180
acatgtattt ggttcgccag actccagaga agaggctgga gtgggtcgca tacatttagta 240
atgatgatag ttccggcgct tattcagaca ctgtaaaggg ccgggttacc atctccagag 300
acaatgccag gaacaccctc tacctgcaaa tgagccgtct gaagtctgag gacacagcca 360
tatattccctg tgcaagagga ctggcctggg gagcctggtt tgcttactgg ggccaaggga 420
ctctggtcac tgtctctgca gccaaaacga cacccccatc tgtctatcca ctggcccctg 480
gatctgctgc ccaaactaac tccatggtga ccctggatg cctggtcaag ggctattcc 540
ctgagccagt gacagtgacc tggaaactctg gatccctgtc cagcggtgtg cacaccctcc 600
cagctgtcct gcagtctgac ctctacactc tgagcagctc agtgactgtc ccctccagca 660
cctggcccaag cgagaccgtc acctgcaacg ttgcccaccc ggccagcagc accaagggtgg 720
acaagaaaaat tgtgcccagg gattgtggta gtaaggcttg cataagtaca aaagcttccg 780
gagggtcccgaa gggcggcagc ctggccgcgc tgaccgcga ccaggcttgc cacctgccgc 840

Sequence Listing

tggagacttt caccgtcat cgccagccgc gcccgtggga acaactggag cagtgcggct	900
atccggtgca gcggctggtc gcccttacc tggcggcgcg gctgtcgtgg aaccaggctg	960
accagggtat ccgcaacgcc ctggccagcc ccggcagcgg cggcacctg ggcaagcga	1020
tccgcgagca gcccggcag gcccgtctgg ccctgaccct ggccgcgc gagagcggc	1080
gcttcgtccg gcagggcacc ggcaacgacg aggccggcgc ggccaacggc cccgggaca	1140
gcggcgacgc cctgctggag cgcaactatc ccactggcgc ggagttcetc ggcaacggcg	1200
gcgacgtcag ctgcagcacc cgcggcacgc agaaactggac ggtggagcgg ctgctccagg	1260
cgcaccgcca actggaggag cgccgtatg tgttcgtcgg ctaccacggc accttcctcg	1320
aagcggcgca aagcatcgtc ttccgggggg tgccgcgcg cagccaggac ctgcacgcga	1380
tctggcgccg tttctataatc gccggcgatc cggcgctggc ctacggctac gcccaggacc	1440
aggaacccga cgcacgcgc cggatccgca acgggtccct gctgcgggtc tatgtgccgc	1500
gctcgagcct gccgggcttc taccgcacca gcctgaccct ggccgcgcg gaggccggcg	1560
gcgaggtcga acggctgatc ggccatccgc tgccgctgctg cctggacgccc atcaccggcc	1620
ccgaggagga aggcgggcgc ctggagacca ttctcggtcg gcccgtggcc gagcgcacccg	1680
tggtGattcc ctccggatc cccaccgacc cgcgcacgt cggcgccgac ctgcacccgt	1740
ccagcatccc cgacaaggaa caggcgatca ggcgcgtgcc ggactacgcc agccagcccg	1800
gcaaaccgccc gcgcgaggac ctgaagtaac tgccgcgacc ggccggctcc ttgcaggttt	1860
gcgggccttc tcggggcctg gccatacatac aggtttccct gatgccagcc caatcgaata	1920
tgaattcggc tgctaacaaa gccccaaagg aagctgagtt ggctgtgcc accgctgagc	1980
aataacttagc ataaccctt gggcctctaa acgggtcttg aggggttttt tgctgaaagg	2040

Sequence Listing

aggaactata tccggatcg agatcaattc tggcgtata gcgaagaggc ccgcaccgat	2100
cgccttccc aacagttgcg tagcctgaat ggcgaatggg acgcgcctg tagcggcgca	2160
ttaagcgcgg cgggtgtggt ggttacgcgc acgctgaccg ctacacttgc cagcgcctca	2220
gcccccgctc ctttcgctt cttcccttcc tttctcgcca cgttcgcgg ctttccccgt	2280
caagctctaa atcgggggct cccttaggg ttccgattta gtgcttacg gcacctcgac	2340
ccccaaaaac ttgatttaggg tgatggttca cgtagtggc catgcgcctg atagacggtt	2400
tttcgcctt tgacgttgga gtccacgttc tttaatagtg gactcttgtt ccaaactgga	2460
acaacactca accctatctc ggtctattct ttgatttat aaggatttt gccgatttcg	2520
gcctatttgt taaaaaatga gctgatttaa caaaaattta acgcaattt taacaaaata	2580
ttaacgttta caatttcagg tggcactttt cggggaaatg tgccggAAC ccctatttgt	2640
ttatTTTCT aaatacattc aaatatgtat ccgctcatga gacaataacc ctgataaaatg	2700
ttcaataat attaaaaaag gaagagtatg agtattcaac atttccgtgt cgcccttatt	2760
cccttttttg cggcattttg ctttcctgtt ttgctcacc cagaaacgct ggtaaagta	2820
aaagatgctg aagatcagtt ggggcacga gtgggttaca tcgaactgga tctcaacagc	2880
ggtaagatcc ttgagagttt tgcggccaa gaacgtttc caatgtatgag cactttaaa	2940
gttctgctat gtggcgcgg attatcccgt attgacgccc ggcaagagca actcggtcgc	3000
cgcatacact attctcagaa tgacttggtt gagtactcac cagtcacaga aaagcatctt	3060
acggatggca tgacagtaag agaattatgc agtgctgcc aaaaaaaaaaaaaaaa	3120
gcggccaaact tacttctgac aacgatcgga ggaccgaagg agctaaccgc ttttttac	3180
aacatggggg atcatgtaac tcgccttgat cggtggaaac cggagctgaa tgaagccata	3240

Sequence Listing

ccaaacgacg agcgtgacac cacgatgcct gtagcaatgg caacaacgtt ggc当地 3300
ttaactggcg aactacttac tctagcttcc cgccaacaat taatagactg gatggaggcg 3360
gataaagttg caggaccact tctgcgctcg gcccttcgg ctggctggtt tattgctgat 3420
aatatctggag ccggtgagcg tgggtctcgc ggtatcattt cagcactggg gccagatgg 3480
aagccctccc gtatcgtagt tatctacacg acgggcagtc aggcaactat ggatgaacga 3540
aatagacaga tcgctgagat aggtgcctca ctgattaagc attggtaact gtcagaccaa 3600
gtttactcat atatacttta gattgattta aaacttcatt tttaatttta aaggatctag 3660
gtgaagatcc ttttgataa tctcatgacc aaaatccctt aacgtgagtt ttcgttccac 3720
tgagcgtcag accccgtaga aaagatcaaa ggatcttctt gagatccctt tttctgcgc 3780
gtaatctgct gcttgcaaac aaaaaaaacca ccgctaccag cggtgttttgg tttgccggat 3840
caagagctac caactcttt tccgaaggta actggcttca gcagagcgca gataccaaat 3900
actgtccttc tagttagcc gtagttaggc caccacttca agaactctgt agcacccgcct 3960
acatacctcg ctctgtaat cctgttacca gtggctgctg ccagtggcga taagtcgtgt 4020
cttaccgggt tggactcaag acgatagttt ccggataagg cgcagcggc gggctgaacg 4080
gggggttcgt gcacacagcc cagcttggag cgaacgacct acaccgaact gagataaccta 4140
cagcgtgagc attgagaaaag cgcacacgtt cccgaaggga gaaaggcggc caggtatccg 4200
gtaagcggca gggtcggaac aggagagcgc acgagggagc ttccaggggg gaacgcctgg 4260
tatctttata gtcctgtcgg gtttcgcccac ctctgacttg agcgtcgatt tttgtatgc 4320
tcgtcagggg ggccgagcct atggaaaaac gccagcaacg cggctttt acggttcctg 4380
gccttttgc ggcctttgc tcacatgttc ttccctgcgt tatccctga ttctgtggat 4440

Sequence Listing

aaccgtatta ccgccttga gtgagctgat accgctcgcc gcagccgaac gaccgagcgc	4500
agcgagtcag tgagcgagga agcgaaagag cgcctgatgc ggtattttct ccttacgcat	4560
ctgtgcggta tttcacacccg catatatggt gcactctcag tacaatctgc tctgatgccg	4620
catagttaaag ccagtataca ctccgctatc gctacgtgac tgcaaggaga tggcgcccaa	4680
cagtcccccg gccacggggc ctgccaccat acccacgccc aaacaagcgc tcatgagccc	4740
gaagtggcga gcccgcattt ccccatcggt gatgtcggcg atataggcgc cagcaaccgc	4800
acctgtggcg cgggtgatgc cgcccacgat gcgtccggcg tagaggatct tgagatctcg	4860
atccgcgaaa t	4871

<210> 10
 <211> 3703
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> pMC75 plasmid full sequence

<400> 10	
taataacgact cactataggg agaccacaac ggttccctc tagaaataat ttgtttaac	60
tttaagaagg agatatacat atggatgtgc tcatgaccca gtctccattt agtttacctg	120
tcatgtttgg agatcaagcc tccatctttt gcagatcttag tcagatcatt gtacatagta	180
atggaaacac ctatttagaa tggtacctgc agaaaccagg ccagtctcca aagctccctga	240
tctacaaagt ttccaaaccga ttttctgggg tcccagacag gttcagtggc agtggatcag	300
ggacagattt cacactcaag atcagcagag tggaggctga ggatctggga gtttattact	360
gctttcaagg ttcacatgtt ccattcacgt tcggctcggg gacaaagttg gaaataaaac	420

Sequence Listing

gggctgatgc tgcaccaact gtatccatct tcccaccatc cagtgagcag ttaacatctg	480
gagggtgcctc agtcgtgtgc ttcttgaaca acttctaccc caaagacatc aatgtcaagt	540
ggaagattga tggcagtgaa cgacaaaatg gcgtcctgaa cagttggact gatcaggaca	600
gcaaagacag cacctacagc atgagcagca ccctcacgtt gaccaaggac gagtatgaac	660
gacataacag ctataacctgt gaggccactc acaagacatc aacttcaccc attgtcaaga	720
gcttcaacag gaatgagtgt ggtaaagctt aatgaattcg gctgctaaca aagccccaaa	780
ggaagctgag ttggctgctg ccaccgctga gcaataacta gcataacccc ttgggcctct	840
aaacgggtct tgaggggttt tttgctgaaa ggaggaacta tatccggatc ggagatcaat	900
tctggcgtaa tagcgaagag gccccgaccc atcgcccttc ccaacagttt cgtagcctga	960
atggcgaatg ggacgcgccc ttagcggcg cattaagcgc ggccgggttg gtggttacgc	1020
gcagcgtgac cgctacactt gccagcgccc tagcgccgc tccttcgct ttcttcctt	1080
cctttctcgc cacgttcgcc ggctttcccc gtcaagctct aaatcgaaaa ctcccttttag	1140
ggttccgatt tagtgcttta cggcacctcg accccaaaaa acttgatttag ggtgatggtt	1200
cacgttagtgg gccatcgccc tgatagacgg ttttcgccc tttgacgttg gagtccacgt	1260
tcttaatag tggactcttgc ttccaaactg gaacaacact caaccctatc tcggctatt	1320
cttttgattt ataaggattt ttgcccattt cggcctattt gttaaaaat gagctgattt	1380
aacaaaaatt taacgcgaat tttaacaaaa tattaacgtt tacaatttca ggtggcactt	1440
ttcggggaaa tgtgcgcgga accccattttt gtttattttt ctaaatacat tcaaatatgt	1500
atccgctcat gagacaataa ccctgataaa tgcttcaata atattgaaaa aggaagagta	1560
tgagtattca acatttccgt gtcgcctta ttccctttt tgccggcattt tgcccttcgt	1620

Sequence Listing

ttttgctca cccagaaaacg ctgggtgaaag taaaagatgc tgaagatcag ttgggtgcac	1680
gagtgggtta catcgaaactg gatctcaaca gcggtaagat ccttgagagt tttcgccccg	1740
aagaacgttt tccaatgatg agcactttt aagttctgct atgtggcgcg gtattatccc	1800
gtattgacgc cgggcaagag caactcggtc gccgcataca ctattctcag aatgacttgg	1860
ttgagtactc accagtcaca gaaaagcatc ttacggatgg catgacagta agagaattat	1920
gcagtgctgc cataaggcatg agtgataaca ctgcggccaa cttacttctg acaacgatcg	1980
gaggaccgaa ggagctaacc gcttttttc acaacatggg ggatcatgta actcgcccttg	2040
atcggttggga accggagctg aatgaagcca taccaaacga cgagcgtgac accacgatgc	2100
ctgttagcaat ggcaacaacg ttgcgc当地 tattaactgg cgaactactt actctagctt	2160
cccgcaaca attaatagac tggatggagg cgataaaagt tgcaggacca cttctgc当地	2220
cggcccttcc ggctggctgg tttattgctg ataaatctgg agccggtgag cgtgggtctc	2280
gcggtatcat tgcagcactg gggccagatg gtaagccctc ccgtatcgta gttatctaca	2340
cgacggggcag tcaggcaact atggatgaac gaaatagaca gatcgctgag ataggtgcct	2400
caactgattaa gcatttggtaa ctgtcagacc aagtttactc atatatactt tagattgatt	2460
taaaaacttca ttttaattt aaaaggatct aggtgaagat ctttttgc当地 aatctcatga	2520
ccaaaatccc ttaacgtgag ttttgc当地 actgagcgtc agaccccgta gaaaagatca	2580
aaggatcttc ttgagatcct tttttctgc gcgtaatctg ctgcttgcaa acaaaaaaaaac	2640
caccgctacc agcgggggta ttgttgc当地 atcaagagct accaactctt tttccgaaagg	2700
taactggctt cagcagagcg cagataccaa atactgtcct tctagtgtag ccgtagttag	2760
gccaccactt caagaactct gtagcaccgc ctacataacct cgctctgcta atcctgttac	2820

Sequence Listing

cagtggctgc tgccagtgcc gataagtcgt gtcttaccgg gttggactca agacgatagt	2880
tacccggataaa ggccgcagcgg tcgggctgaa cgggggggttc gtgcacacag cccagcttgg	2940
agcgaacgac ctacacccgaa ctgagatacc tacagcgtga gcattgagaa agcgccacgc	3000
ttcccgaagg gagaaaggcg gacaggtatc cggttaagcgg cagggtcgga acaggagagc	3060
gcacgaggga gcttccaggg gggAACGcct ggtatctta tagtcctgtc gggtttcgccc	3120
acctctgact tgagcgtcga tttttgtat gctcgtcagg gggccgagc ctatggaaaa	3180
acgccagcaa cgcggccttt ttacgggttcc tggccttttgcgttgcacatgt	3240
tctttcctgc gttatccccct gattctgtgg ataaccgtat taccgccttt gagtgagctg	3300
ataccgctcg ccgcagccga acgaccgagc gcagcggatc agtgagcggag gaagcggaaag	3360
agcgcctgat gcggtatTTT ctccttacgc atctgtcggg tatttcacac cgcataatatgt	3420
gtgcactctc agtacaatct gctctgtatgc cgcatagtta agccagtata cactccgcta	3480
tcgctacgtg actgcaagga gatggcgccc aacagtcccc cggccacggg gcctgccacc	3540
atacccacgc cgaaacaaggc gctcatgagc ccgaagtggc gagcccgatc ttccccatcg	3600
gtgatgtcgg cgatataaggc gccagcaacc gcaccctgtgg cgccgggtat gcccggccacg	3660
atgcgtccgg cgttagaggat cttgagatct cgatccgcga aat	3703

<210> 11
<211> 5576
<212> DNA
<213> Artificial Sequence

<220>
<223> pLSC52 plasmid full sequence

Sequence Listing

<400> 11
taatacgaact cactataggg agaccacaac ggtttccctc tagaaataat tttgtttaac 60

tttaagaagg agatatacat atggatgtga agctggtgga atctggagga ggcttagtgc 120

agcctggagg gtcctgaaa ctctcctgtg caacctctgg attcaatttc agtgactatt 180

acatgtatttgg gttcgccag actccagaga agaggctgga gtgggtcgca tacatttagta 240

atgtatgatag ttccgcccgt tattcagaca ctgtaaaggg ccgggtcacc atctccagag 300

acaatgccag gaacaccctc tacctgcaaa tgagccgtct gaagtctgag gacacagcca 360

tatattcctg tgcaagagga ctggcctggg gagcctgggt tgcttactgg gccaaaggga 420

ctctggtcac tgtctctgca gccaaaacga cacccccatc tgtctatcca ctggccctcg 480

gatctgctgc ccaaactaac tccatggtga ccctggatg cctggtaag ggctatttcc 540

ctgagccagt gacagtgacc tggaaactctg gatccctgtc cagcggtgtg cacacccctcc 600

cagctgtcct gcagtctgac ctctacactc tgagcagtc agtgaactgtc ccctccagca 660

cctggcccaag cgagaccgtc acctgcaacg ttgcccaccc ggccagcagc accaagggtgg 720

acaagaaaaat tgtgcccagg gattgtggtg agcccaaatac ttgtgacaaa actcacacat 780

gcccacccgtg cccagcacct gaactcctgg ggggaccgtc agtcttcctc ttccccccaa 840

aaccctaagga caccctcatg atctcccgga cccctgaggt cacatgcgtg gtggtgacg 900

tgagccacga agaccctgag gtcaagttca actggtaacgt ggacggcgtg gaggtgcata 960

atgccaagac aaagccgcgg gaggagcagt acaacacgac gtaccgtgtg gtcagcgtcc 1020

tcaccgtcct gcaccaggac tggctgaatg gcaaggagta caagtgcacag gtctccaaca 1080

aagccctcccc agccccatc gagaaaacca tctccaaagc caaaggcag ccccgagaac 1140

Sequence Listing

cacaggtgta caccctgccc ccatcccgaa atgagctgac caagaaccag gtcagcctga	1200
cctgcctggt caaaggcttc tatcccagcg acatcgccgt ggagtgggag agcaatggc	1260
agccggagaa caactacaag accacgcctc ccgtgctgga ctccgacggc tccttcttcc	1320
tctacagcaa gctcacccgtg gacaagagca ggtggcagca gggaaacgta ttctcatgct	1380
ccgtgatgca tgaggctctg cacaaccact acacgcagaa gagcctctcc ctgtctccgg	1440
gtaaaggcgg aggcggatcc ggtggtggcg gttctaaagc ttccggaggt cccgagggcg	1500
gcagcctggc cgcgctgacc gcgcaccagg cttgccacct gccgctggag actttcaccc	1560
gtcatcgcca gccgcgcggc tggaaacaac tggagcagtg cggctatccg gtgcagcggc	1620
tggtcgcctt ctacctggcg gcgcggctgt cgtggAACCA ggtcgaccag gtatccgca	1680
acgcccctggc cagccccggc agcggcggcg acctggcgaa agcgatccgc gagcagccgg	1740
agcaggccccg tctggccctg accctggcccg ccgcccagag cgagcgcttc gtccggcagg	1800
gcacccggcaa cgacgaggcc ggcgccggcca acggcccgcc ggacagcggc gacgcctgc	1860
tggagcgcaa ctatccccact ggcgcggagt tcctcgccga cggcggcgac gtcagcttca	1920
gcaccccgccg cacgcagaac tggacgggtgg agcggctgtt ccaggcgcac cgccaaactgg	1980
aggagcgcgg ctatgtgttc gtcggctacc acggcacctt cctcgaagcg ggcggcaagca	2040
tcgtcttcgg cggggtgccgc gcgcgcagcc aggacctcga cgcgatctgg cgcggttct	2100
atatcgccgg cgatccggcg ctggcctacg gctacgcccggaa cccgacgcac	2160
gcggccggat ccgcaacgggt gcccgtgtgc gggtctatgt gcccgcgtcg agcctgcccgg	2220
gcttctacccg caccagcctg accctggcccg cgccggaggc ggccggcgag gtcgaacggc	2280
tgatcgccca tccgctgccc ctgcgcctgg acgccatcac cggccccgag gaggaaggcg	2340

Sequence Listing

ggcgccctgga gaccatttc ggctggccgc tggccgagcg caccgtggtg attccctcg	2400
cgatccccac cgaccgcgc aacgtcgccg gcgacctcga cccgtccagc atccccgaca	2460
aggaacaggc gatcagcgcc ctgccggact acgccagcca gcccggcaaa ccgcccgcgc	2520
aggacacctgaa gtaactgccc cgaccggccg gctcccttcg caggagccgg ctttctcg	2580
gcctggccat acatcaggtt ttccgtatgc cagccaaatc gaatatgaat tcggctgcta	2640
acaaagcccg aaaggaagct gagttggctg ctgccaccgc tgagcaataa ctagcataac	2700
cccttgggcc tctaaacggg tcttgagggg tttttgctg aaaggaggaa ctatatccgg	2760
atcgagatc aattctggcg taatagcgaa gaggccgcg cccatcgcccc ttcccaacag	2820
ttgcgtagcc tgaatggcga atgggacgcg ccctgtagcg gcgcattaag cgcggcg	2880
gtggtgttta cgccgcagcgt gacccgtaca cttgccagcg ccctagcgcc cgctccccc	2940
gctttcttcc ctcccttct cggccacgttc gcccgttcc cccgtcaagc tctaaatcg	3000
gggctccctt tagggttccg atttagtgct ttacggcacc tcgaccccaa aaaacttgat	3060
taggtgtatg gttcacgtatg tgggccatcg ccctgataga cgggtttcg cccttgacg	3120
ttggagtcca cgttctttaa tagtggactc ttgttccaaa ctggacaac actcaaccct	3180
atctcggtct attctttga tttataaggg attttgccga ttccggccta ttggtaaaa	3240
aatgagctga tttaacaaaa attaacgcg aattttaaca aaatattaac gtttacaatt	3300
tcaggtggca ctttcgggg aatgtgcgc ggaacccta tttgtttatt tttctaaata	3360
cattcaaata tgtatccgct catgagacaa taaccctgat aaatgcttca ataatattga	3420
aaaaggaaga gtatgagtat tcaacatttc cgtgtcgccc ttattccctt ttttgcggca	3480
ttttgccttc ctgttttgc tcacccagaa acgctggta aagtaaaaga tgctgaagat	3540

Sequence Listing

cagttgggtg cacgagtggg ttacatcgaa ctggatctca acagcggtaa gatcctttag	3600
agtttcgcc ccgaagaacg tttccaatg atgagcactt taaaaggct gctatgtggc	3660
gcggtattat cccgtattga cgccggcaa gagcaactcg gtcggccat acactattct	3720
cagaatgact tgggttagta ctcaccagtc acagaaaagc atcttacgga tggcatgaca	3780
gtaagagaat tatgcagtgc tgccataagc atgagtgata acactgcggc caacttactt	3840
ctgacaacga tcggaggacc gaaggagcta accgctttt ttcacaacat gggggatcat	3900
gttaactcgcc ttgatcggtt ggaaccggag ctgaatgaag ccataccaaa cgacgagcgt	3960
gacaccacga tgcctgttagc aatggcaaca acgttgcgca aactattaac tggcgaacta	4020
cttactctag cttccggca acaattaata gactggatgg aggcggataa agttgcagga	4080
ccacttctgc gtcggccct tccggctggc tggtttattt ctgataaattc tggagccggt	4140
gagcgtgggt ctgcggtat cattgcagca ctggggccag atggtaagcc ctcccgatc	4200
gtagttatct acacgacggg cagtcaggca actatggatg aacgaaatag acagatcgct	4260
gagataggtg cctcaactgat taagcattgg taactgtcag accaagttt ctcataata	4320
cttagattt attaaaaact tcattttaa tttaaaagga tctaggtgaa gatcctttt	4380
gataatctca tgacccaaat cccttaacgt gagtttcgt tccactgagc gtcagacccc	4440
gtagaaaaga tcaaaggatc ttcttgagat ctttttttc tgcgctaat ctgctgctg	4500
caaacaaaaa aaccaccgct accagcggtg gtttgtttgc cggatcaaga gctaccaact	4560
ctttttccga aggtaactgg cttcagcaga ggcagatac caaatactgt cttctagtg	4620
tagccgtat taggccacca cttcaagaac tctgttagcac cgccctacata cctcgctctg	4680
ctaattcctgt taccagtggc tgctgccagt ggcgataagt cgtgtcttac cgggttggac	4740

Sequence Listing

tcaagacgat agttaccgga taaggcgacg cggtcgggct gaacgggggg ttcgtgcaca	4800
cagcccagct tggagcgaac gacctacacc gaactgagat acctacagcg tgagcattga	4860
gaaagcgcca cgcttcccga agggagaaaag gcggacaggt atccggtaag cggcagggtc	4920
ggaacaggag agcgcacgag ggagcttcca ggggggaacg cctggtatct ttatagtcc	4980
gtcgggttcc gccacctctg acttgagcgt cgattttgt gatgctcgac agggggccg	5040
agcctatgga aaaacgccag caacgcggcc ttttacggt tcctggcctt ttgctggcct	5100
tttgctcaca tgttcttcc tgcgttatcc cctgattctg tggataaccg tattaccgccc	5160
tttgagttag ctgataccgc tcgccccgc cgaacgaccg agcgcagcga gtcagttagc	5220
gaggaagcgg aagagcgccct gatgcggtat tttctcccta cgcatctgtg cggtatttca	5280
caccgcataat atgggtcaact ctgcgtacaa tctgcgtctga tgccgcatacg ttaagccagt	5340
atacactccg ctatcgctac gtgactgcaa ggagatggcg cccaacagtc ccccgccac	5400
ggggcctgcc accataccca cgccgaaaca agcgctcatg agcccgaagt ggcgagcccg	5460
atcttccca tcggtgatgt cggcgatata ggccgcagca accgcacctg tggcgccggt	5520
gatgccggcc acgatgcgtc cggcgtagag gatcttgaga tctcgatccg cgaaat	5576

<210> 12
<211> 4263
<212> DNA
<213> Artificial Sequence

<220>
<223> pKL4 plasmid full sequence

<400> 12
taatacgact cactataggg agaccacaac ggtttccctc tagaaataat tttgtttAAC 60

Sequence Listing

ttaagaagg agatatacat atgcatcacc atcaccatca cgatgtgaag ctggtggaat	120
ctggaggagg cttagtgca cctggagggt ccctgaaaact ctcctgtgca acctctggat	180
tcactttcag tgactattac atgtattggg ttcgccagac tccagagaag aggctggagt	240
gggtcgata cattagtaat gatgatagtt ccgcgcgtta ttcagacact gtaaaggccc	300
ggttcaccat ctccagagac aatgccagga acaccctcta cctgcaaatg agccgtctga	360
agtctgagga cacagccata tattcctgtg caagaggact ggcctgggaa gcctggttt	420
cttactgggg ccaaggact ctggtcactg tctctgcagc caaaacgaca cccccatctg	480
tctatccact ggcccctgga tctgctgccc aaactaactc catggtacc ctggatgcc	540
tggtcaaggg ctattccct gagccagtga cagtgacctg gaactctgga tccctgtcca	600
gcggtgtgca cacttccca gctgtcctgc agtctgacct ctacactctg agcagctcag	660
tgactgtccc ctccagcacc tgccccagcg agaccgtcac ctgcaacgtt gcccacccgg	720
ccagcagcac caaggtggac aagaaaattg tgcccagggaa ttgtggtgct aagccttgca	780
tagctacaca agcttccgggt ggtggcggat ctggaggtgg cggaagcggaa ggtcccgagg	840
tgacaggggg aatggcaagc aagtgggatc agaagggtat ggacattgcc tatgaggagg	900
cggccttagg ttacaaagag ggtgggttcc ctattggcgg atgtcttatac aataacaaag	960
acggaaagtgt tctcggtcgt ggtcacaaca tgagattca aaaggatcc gccacactac	1020
atggtgagat ctccactttg gaaaactgtg ggagattaga gggcaaagtg tacaaagata	1080
ccactttgtt tacgacgctg tctccatgcg acatgtgtac aggtgccatc atcatgtatg	1140
gtattccacg ctgtgttg tc ggtgagaacg ttaatttcaa aagtaaggc gagaaatatt	1200
tacaaactag aggtcacgag gttgttggatc ttgacgttgc gaggtgtaaa aagatcatga	1260

Sequence Listing

aacaatttat	cgatgaaaga	cctcaggatt	ggtttgaaga	tattggtag	taggaattcg	1320
gctgctaaca	aagccgaaa	ggaagctgag	ttggctgctg	ccaccgctga	gcaataacta	1380
gcataacccc	ttgggcctct	aaacgggtct	tgaggggttt	tttgctgaaa	ggaggaacta	1440
tatccggatc	ggagatcaat	tctggcgtaa	tagcgaagag	gcccgacccg	atcgcccttc	1500
ccaacagttg	cgttagcctga	atggcgaatg	ggacgcgccc	tgtagcggcg	cattaagcgc	1560
ggcgggtgtg	gtggttacgc	gcagcgtgac	cgctacactt	gccagcgccc	tagcgcccc	1620
tcctttcgct	ttcttccctt	ccttctcgc	cacgttcgcc	ggctttcccc	gtcaagctct	1680
aaatcggggg	ctccctttag	gttccgatt	tagtgctta	cggcacctcg	acccaaaaaa	1740
acttgattag	ggtgatggtt	cacgtagtgg	gccatcgccc	tgatagacgg	tttttcgccc	1800
tttgacgttg	gagtccacgt	tcttaatag	tggactcttg	ttccaaactg	gaacaacact	1860
caaccctatc	tcggctattt	cttttggattt	ataagggatt	ttgccgattt	cggcctattg	1920
gttaaaaaat	gagctgattt	aacaaaaatt	taacgcgaat	ttaacaaaa	tattaacgtt	1980
tacaatttca	ggtggcactt	ttcggggaaa	tgtgcgcgga	acccctattt	gtttattttt	2040
ctaaatacat	tcaaatatgt	atccgctcat	gagacaataa	ccctgataaa	tgcttcaata	2100
atattgaaaa	aggaagagta	tgagtattca	acatttccgt	gtcgccctta	ttcccttttt	2160
tgcggcattt	tgccttcctg	ttttgctca	cccagaaaacg	ctggtaaaag	taaaagatgc	2220
tgaagatcag	ttgggtgcac	gagtgggtta	catcgaactg	gatctcaaca	gccccatagat	2280
ccttgagagt	tttcgccccg	aagaacgttt	tccaatgatg	agcactttta	aagttctgt	2340
atgtggcgcg	gtattatccc	gtattgacgc	cgggcaagag	caactcggtc	gccgcataca	2400
ctattctcag	aatgacttgg	ttgagtactc	accagtcaca	gaaaagcatc	ttacggatgg	2460

Sequence Listing

catgacagta agagaattat gcagtgcgc cataagcatg agtataaca ctgcggccaa	2520
cttacttcg acaacgatcg gaggaccgaa ggagctaacc gcttttttc acaacatggg	2580
ggatcatgta actcgccctg atcggtggga accggagctg aatgaagcca taccaaacga	2640
cgagcgtgac accacgatgc ctgttagcaat ggcaacaacg ttgcgcaaac tattaactgg	2700
cgaactactt actctagctt cccggcaaca attaatagac tggatggagg cgataaaagt	2760
tgcaggacca cttctgcgct cggcccttcc ggctggctgg tttattgctg ataaatctgg	2820
agccggtgag cgtgggtctc gcggtatcat tgcagcactg gggccagatg gtaagccctc	2880
ccgtatcgta gttatctaca cgacgggcag tcaggcaact atggatgaac gaaatagaca	2940
gatcgctgag ataggtgcct cactgattaa gcattggtaa ctgtcagacc aagtttactc	3000
atataactt tagattgatt taaaacttca ttttaattt aaaaggatct aggtgaagat	3060
ccttttgcgtat aatctcatga cccaaatccc ttaacgtgag ttttcgttcc actgagcgtc	3120
agaccccgta gaaaagatca aaggatcttc ttgagatcct tttttctgc gcgtaatctg	3180
ctgcttgcaa aaaaaaaaaac caccgctacc agcggtggtt tgtttgcgg atcaagagct	3240
accaactctt tttccgaagg taactggctt cagcagagcg cagataccaa atactgtcct	3300
tctagtgttag ccgtagttag gccaccactt caagaactct gtgcaccgc ctacataacct	3360
cgctctgcta atcctgttac cagtggtctgc tgccagtggc gataagtcgt gtcttaccgg	3420
gttggactca agacgatagt taccggataa ggccgcagcgg tcgggctgaa cgggggggttc	3480
gtgcacacag cccagcttgg agcgaacgac ctacaccgaa ctgagatacc tacagcgtga	3540
gcattgagaa agcgccacgc ttcccgaaagg gagaaaggcg gacaggtatc cggtaaagcgg	3600
cagggtcgga acaggagagc gcacgaggga gcttccaggg gggAACGCTT ggtatctta	3660

Sequence Listing

tagtcctgtc gggtttcgcc acctctgact tgagcgctga tttttgtat gctcgctagg	3720
ggggcccgagc ctatggaaaa acgccagcaa cgcggccttt ttacggttcc tggcctttt	3780
ctggccttt gctcacatgt tctttcctgc gttatcccct gattctgtgg ataaccgtat	3840
taccgcctt gagtgagctg ataccgctcg ccgcagccga acgaccggc gcagcgagtc	3900
agtgagcgag gaagcggaaag agcgcctgat gcggtatttt ctcccttacgc atctgtgcgg	3960
tatttcacac cgcatatatg gtgcactctc agtacaatct gctctgatgc cgcatagttt	4020
agccagtata cactccgcta tcgctacgtg actgcaagga gatggcgccc aacagtcccc	4080
cggccacggg gcctgccacc atacccacgc cgaardaaagc gctcatgagc ccgaagtggc	4140
gagcccgatc ttcccccacg gtgatgtcgg cgatataaggc gccagcaacc gcacctgtgg	4200
cgcgggtgat gccggccacg atgcgtccgg cgttagaggat cttgagatct cgatccgcga	4260
.aat	4263